

RISK MATTERS

Department of Administration Risk Management & Tort Defense

Bulletin #: 93-4

Date: 8/1/93

Issued To: ALL AGENCIES

Subject: REPETITIVE STRAIN
INJURY



Risk Matters is a bulletin designed to clarify policy, statute, or procedure, and to assist state agencies in minimizing their exposure to losses stemming from legal liability, vehicle liability, or property risks.

PREFACE

Repetitive Strain Injury, or RSI, is being called the occupational disease of the 90's. RSI accounted for 39% of all occupational injuries reported to OSHA in 1987 and 30-40% of all workers' compensation claims.

A 1984 estimate by the American Academy of Orthopedic Surgeons cited lost earnings and medical related expenses of more than \$27 billion annually and some businesses spend approximately \$9,000 per day treating RSI disorders in their employees.

This issue of *Risk Matters* is devoted to Repetitive Strain Injury. We've also added a new section, which we think you'll enjoy, called **RISKORNER**. Please distribute this bulletin to all supervisors and appropriate agency personnel.

DEFINING THE DISORDER

RSI is another term for Cumulative Trauma Disorders (CTD), Repetitive Motion Injury (RMI) and Overuse Syndrome. RSI is caused when too much pressure is put on the median nerve that runs through your wrist.

RSI usually only affects personnel that spend most of their time typing or keypunching. Other employees at risk are those that spend large amounts of time performing manual work which involves repetitive motion.

Once pain or tingling appear, the symptoms may worsen and could cause permanent nerve damage. As with most health conditions, it is easier to prevent the problem than to correct it. There are several specific RSI disorders, including tendinitis, tenosynovitis and carpal tunnel syndrome.

RSI is the result of four risk factors acting in combination:

- High rates of repetition.
- Awkward posture/position.
- Use of excessive force.
- Lack of adequate rest/recovery.

A rash of RSI cases has emerged recently among keyboard operators. For example, U.S. West in Denver, Colorado has spent in excess of \$4 million coping with wrist disorders among telephone operators. Closer to home, some agencies have recently reported RSI injuries to employees who spend inordinate amounts of time operating personal computers.

The first line of defense in RSI prevention is a combination of training, work station design, relaxation techniques and exercise.

Keep Your Wrists Neutral

- Avoid using your wrists in a bent (flexed), extended, or twisted position for long periods of time. Maintain a neutral wrist position.
- If you stand with your shoulders, arms and wrists utterly relaxed, your wrist will be in a straight plane with your forearm and that is the posture and state of relaxation that you want to maintain.
- Any motion in which the wrists are bent in any direction, especially if force is used, can be detrimental to the carpal tunnel. Many state employees, when using a keyboard, rest their wrists on the edge of a work surface, sometimes while angling the hand upward.

The structures inside the wrist, which keep the hand working properly are close to the surface and sensitive to pressure. Thus, sharp edges at or near the wrists are to be avoided.

- **HINT:** Padded wrist/palm rests may be helpful in keeping the wrists flat and supporting the weight of the arms. Palm rests are available for a nominal cost locally. For information on how and where to obtain these rests, please contact the Risk Management and Tort Defense Division (406)444-2421.

Minimize Repetition

Even simple light tasks may eventually cause pain. Try to avoid repetitive motions or holding an object in the same position for long periods. Occasionally give your hands a rest. You may accomplish this by alternating easy and hard tasks, changing hands, or scheduling a variety of other work activities. This rest is also accomplished when you lean back to proofread the work you have just completed and this free flowing or "dynamic motion" should be accommodated by your chair.

Adjust Your Chair to Your Physical Needs

The chair is the principle piece of office equipment for every state employee. Therefore, carefully select the one with the greatest potential for prevention of RSI. The 9 essential elements of ergonomic seating are as follows:

- A variety of chairs for various sizes of people.
- Contour padded seat and back.
- Seat height adjustment.
- Lumbar support via back height adjustment and full tilt.
- Back tilt adjustment while seated.
- Seatpan tilt adjustment while seated.
- All adjustments easily made while seated.
- Training to assure optimum results.
- The chair meets ANSI (American National Safety Institute) standards.

Proper chair height adjustment can help keep your wrists in a flat position and control of backrest angle and seat pan forward tilt further aids in relaxation and reduction of muscular tension.

WHAT CAN STATE
EMPLOYEES DO TO
P R O T E C T
THEMSELVES?

Arm Rests are a Mixed Blessing

They have to be low enough to fit under the work surface. At the same time, they may actually add to wrist discomfort if the elbows are kept on the arm rests while keying.

There are many work situations, such as pauses while waiting for a new file or program to load, or talking on the phone, where it is very beneficial to rest one's arms for a few seconds.

Studies have shown that properly designed and located arm rests may greatly reduce the strain on the median nerve of the wrist.

Watch Your Grip

Gripping, grasping, or lifting with the thumb and index finger can stress your wrist. Try to use the whole hand to grasp objects. Keep your hold light and easy when there is no need to grasp tightly.

Keep in Shape

Exercises can strengthen hand and arm muscles, improve circulation and may help compensate for work that must be done with the wrist in a poor position.

Above All

Listen to your body - make yourself comfortable by adjusting your chair and work surface to change your position and restore your comfort. Change the seat height to allow the wrists to be horizontal at various tasks and for changing body positions.

You should input with your wrists horizontal and not resting on anything which will raise or lower the fingers. The front seat tilt of the chair allows you to lean forward to read the copy and to input, then break in motion by leaning back to read the screen and edit your work. Repeating this movement all day will be enough breaks in motion to help avoid RSI.



RISKORNER

designed to provide agency news, success stories and other topical risk management tips. WE HOPE THAT YOU ENJOY IT!

Safety Scoop

Personal protective equipment may help you reduce employee injury within your agency. The Risk Management and Tort Defense Division has information available on how to obtain the following types of safety equipment:

- **Computer Screens** - These screens reduce eye strain and headaches associated with operating personal computers.
- **Back Belts** - Back belts should be used by state employees who regularly lift heavy items.
- **Arm Rests** - Arm rests reduce the pressure on the median nerve of the wrist and are helpful in preventing Repetitive Strain Injury such as Carpal Tunnel Syndrome.
- **Various** - Hard hats, safety signs, etc.

Workers' Compensation Reform

Much has been said and written about workers' compensation during the recent legislative session. Two bills, in particular, affect state employees.

- **SB 163** - requires that each public or private employer establish and administer a comprehensive and EFFECTIVE safety program. The Risk Management and Tort Defense Division is evaluating the feasibility of developing a statewide safety plan subject to the Governor's and agencies approval which can be used as a model and complies with rules promulgated by the Department of Labor. STAY TUNED for more info!
- **SB 347** - is known as the medical cost containment bill and allows employees injured after 7/1/93 to select a physician of their choice, but requires employees to co-pay 20% of each subsequent visit subject to a \$10 maximum for all non-emergent visits (\$25 maximum for emergency care) unless the visit is to a designated managed care provider as determined by the State Mutual Compensation Fund.

Other key provisions of the bill limit reimbursement for the cost of name brand drugs. Any difference between the cost of generic and name brand equivalents is to be paid by the injured employee.

Finally, an injured employee may choose his/her initial treating physician within the State of Montana, however, authorization is required by the State Compensation Mutual Insurance Fund if the employee changes physicians.

If authorization is not granted, the Fund will direct the injured worker to a managed care organization. For additional information, contact the State Compensation Mutual Insurance Fund.



RISK MATTERS

Department of Administration Risk Management & Tort Defense

Bulletin #93-3

Date: 5/1/93

Issued To: ALL AGENCIES

Subject: CRISIS MANAGEMENT



Risk Matters is a bulletin designed to clarify policy, statute, or procedure, and to assist state agencies in minimizing their exposure to losses stemming from legal liability, vehicle liability, or property risks.

PREFACE

When disaster strikes or is impending, an organization's response is critical to its future survival and strength. Since May is Disaster Preparedness Month, this issue of Risk Matters is devoted to crisis management.

Crisis management is crucial in protecting and preserving the state's physical and human resources before, during and after a catastrophic loss. This bulletin provides a few common sense tips that are low cost and easy to implement.

Additional information is available upon request from the Risk Management and Tort Defense Division and the Department of Military Affairs - Disaster & Emergency Services Division. Please distribute and route this bulletin to appropriate managers, supervisors, and employees.

WHAT IS A CRISIS?

In everyday language, a crisis is a turning point in a sequence of events, a point in time in which crucial actions or events may significantly shape the future.

The terms crisis, disaster and catastrophe are often used interchangeably but are always the result of some natural or human peril (a peril is a hazard or threat of financial or physical loss). Examples are provided below:

Natural Perils

Floods
Earthquakes
Hurricanes
Windstorm
Fire & Explosion
Tornados

Human Perils

Arson
Terrorism
Nuclear War
Hazardous Materials
Industrial Accident
Insurrection or Riot

Only a few of the aforementioned perils and the resultant damages are usually significant enough to precipitate a crisis or be considered "catastrophic" in nature.

Agencies should realize, however, that all of these perils, especially floods, earthquakes and tornados present a **POTENTIAL** for catastrophic

loss to the State of Montana and its agencies.

WHAT ARE THE OBJECTIVES OF CRISIS MANAGEMENT?

The objectives of crisis management are divided into two categories: Pre-loss and Post-loss.

Pre-loss objectives typically include 1) an emphasis on employee/public life safety; 2) financing losses through adequate insurance coverage; and 3) incorporating steps to assure that to the extent possible the damage stemming from a crisis event is minimized.

Post-loss goals usually emphasize 1) damage control/loss mitigation; or 2) minimization of interruptions in operations.

WHAT CAN STATE AGENCIES DO?

Development of a Crisis Management Plan/Policy

When buildings go up in smoke and earthquakes or tornadoes sweep a region, state agency activities become far from routine. In order to respond appropriately to emergencies, many things must be done at once to preserve an agency's physical and human resources. Ideally, before the crisis, agencies have prepared a crisis management plan/policy. The Department of Military Affairs - Disaster and Emergency Services Division is available as a resource to assist state agencies in developing crisis management plans and to provide training.

The categories of instruction and pertinent information most often included in a well written crisis management policy are as follows:

- The purpose, scope and organization of the plan.
 - The structure of the crisis management organization, including the chain of command.
 - Evacuation Instructions - Including explanations of alarm signals and diagrams of exit routes, giving priority to life safety when warning time is short.
 - Loss prevention and loss reduction
- procedures - organized by peril and separated into pre-event and post-event measures.
 - Procedures, addresses and telephone numbers for contacting outside fire, police, medical, pollution control and other sources of help (including senior management); and
 - Communication procedures to be followed during and after the emergency, especially for notifying employees of progress toward resuming operations.
 - A procedure for periodically testing the effectiveness of the plan through "mock" disasters.

Different perils require different responses, therefore, there can be no single "prescription" for one universally appropriate crisis management plan.

The following catalog of crisis management "tips" provides a summary of appropriate actions to take within reasonable response times for various perils:

Fire and Explosion Emergencies

Fires and explosions typically occur without much warning. Because of the rapid onset and potential extreme severity of fires and explosions, many loss reduction measures for them are automatic and mechanical.

Some state occupancies, for example, are equipped with automatic sprinklers/fire suppression devices, fire alarms and lighted signs directing occupants to evacuate. This will depend upon Uniform Building Code and other requirements.

In any case, in the event of a fire, remember RACE:

- R Rescue/evacuate all occupants that are in immediate danger. Life safety of the occupants is the primary objective.
- A Activate the nearest alarm or call 911.
- C Confine the fire, where feasible, by

shutting all doors and windows and eliminating a key fuel source; OXYGEN.

- E Extinguish, only if time permits, the fire using an extinguisher or other means that are appropriate given the type and size of the fire.

Flood Emergencies

In contrast to fires, most floods strike with substantial warning (the exceptions being flash floods from deluges or dam collapses).

Advance warning may provide time for erecting sandbag dikes or moving portable property to higher ground or the upper floors of buildings and evacuating personnel.

Earthquakes

According to the Department of Military Affairs, Earthquake Hazard Reduction Program, perhaps the most significant risk involving the operation of state agencies is earthquake risk. Most of Northwestern Montana, including Helena, is located in a Zone 3 Earthquake area (on a scale of 1 to 4, 4 being the worst).

Earthquakes are dangerous primarily because they bring with them, building collapses, fires originating from broken power lines and gas mains and lack of potable water.

Most injuries and deaths during earthquakes occur because of falling glass and debris near buildings.

WHEN THE SHAKING BEGINS...

- **STAY WHERE YOU ARE.** During the 1935 earthquake in Helena, 2 of the 4 people killed were last seen running out of buildings.
- Take cover in a preselected safety spot. A safety spot could be under a heavy desk or table. Pick a spot away from windows, bookcases, or tall heavy objects that could fall on you. Don't use elevators.
- If you are outside, stay outside. If you are driving a car, drive to a

clear spot and pull over. Never stop on or under a bridge or overpass.

AFTER THE EARTHQUAKE...

- Be prepared for aftershocks.
- Watch for falling objects when you enter or leave buildings. Brick facades are particularly dangerous.
- Do not enter severely damaged buildings.
- Don't go sightseeing.

WHAT TO DO BEFORE THE NEXT ONE - CONSIDER...

- Moving all bookcases and heavy furniture away from door entrances and exits.
- Relocating large pictures or other wall fixtures to safe locations where they are unlikely to fall on employees.
- Bolting bookcases and other tall, heavy furniture to the wall.
- Putting latches or bolts on cabinet doors.
- Storing flammable liquids that may combine and explode upon impact away from employees in separate locked cabinets, where feasible.
- Securing computer terminals and printers by purchasing an inexpensive velcro adhesive strip. This will keep the computer from falling and being damaged.

Windstorms

Different types of windstorms offer varying warning periods. Hurricanes and typhoons, though usually not a concern in Montana, can be tracked for days, while tornados arise much more rapidly and less predictably.

Thus, a hurricane may allow time for battening exposed windows and tying down portable out-



door property and for evacuating an area or obtaining emergency supplies. On the other hand, the appearance of a tornado funnel may leave time only for finding immediate shelter for personnel within the agency (usually the basement).

Civil Disturbance Emergencies

Public demonstrations, rioting and labor-management disputes which may become violent are among the most common causes of civil unrest. These emergencies are rare and unlikely in Montana, but deserve mention.

The distinguishing features of these emergencies are, interference with access to or egress from the premises and potential acts of vandalism, arson and sabotage.

The first step in dealing with such an emergency is for agency management to decide -- based upon the life, safety, property protection and other agency objectives to shut down the premises entirely or to continue operations.

If the choice is to continue operations, special staffing, security and property protection requirements may be necessary. In addition, the agency must have adequate supplies of all materials, utilities and other essentials to fulfill this commitment.

Civil Defense Emergencies

Though threats of external military attack have subsided in recent years with the end of the cold war, Montana is located adjacent to states with nuclear weapons armories which house chemical and biological agents.

In the unlikely event that these agents escape their intended containment and wind conditions are adverse, appropriate response procedures need to be prompt and highly automatic.

Lewis & Clark County and the American Red Cross have developed Community Shelter Plans and identified cluster shelters that are suitable for occupation in the event of fallout.

SUMMARY

It is our hope that state agencies never have to

test crisis management theory as did the State of Florida in the wake of Hurricane Andrew or the City of San Francisco during the recent earthquakes.

On those rare occasions when catastrophic losses do occur and affect state agencies, an ounce of prevention is worth a pound of cure.

Crisis event planning and appropriate response may be crucial in preserving the state's physical and human resources in the event of a catastrophic loss. GOOD LUCK!